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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,672	03/19/2004	Tae Kyung Lee	U 015089-7	8572

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04/05/2007

EXAMINER

POPOVIC, BOJAN

ART UNIT

PAPER NUMBER

3709

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/805,672	LEE, TAE KYUNG	
	Examiner	Art Unit	
	Bojan Popovic	3709	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/26/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: The terminology used to define the numeral 25 of the specification is inconsistent.

On page 4 of the specification, the numeral 25 is referred to as both a "cylinder header" (line 2) and "cylinder head" (lines 5 and 10). Examiner believes that the numeral 25 should be referenced as a "cylinder head", but is unsure.

On page 4, paragraph 4 of the specification, a magnet (33a) is defined to be fixed to encircle the outside of the cylinder (22); however, in paragraph 3, an inner stator (31) is defined to encircle the cylinder. Examiner suggests the phrase be changed to define a magnet encircling the outside of both the cylinder (22) and inner stator (31).

On page 5, paragraph 2 of the specification, the numeral identifying a holder should be changed from 32b to 31b to be consistent with the earlier definition.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Patent 6,339,876) in view of Hong et al. (2001 KR-108561).

The Lee reference discloses a linear compressor comprising inner and outer cores with a mover between the inner and outer cores to reciprocate a piston (Col. 1, Lines 27-45). The Lee reference also teaches a cylinder in which a refrigerant is compressed by the moving of the piston (Col. 1, Lines 32-38). Additionally, the Lee reference teaches a holder to which the inner core is fastened (Col. 1, Lines 64-67 and Col. 2, Lines 1-5). The holder is fastened to the cylinder block via screws that extend through the cylinder block and into the threaded part formed on the surface of the holder. The Lee reference does not teach a linear compressor having "a first threaded part formed on the inner surface of the inner stator and a second threaded part formed on an outer surface of the cylinder to engage the first threaded part."

The Hong et al. reference; however, teaches a linear compressor where the inner core (30) is secured to the frame (10) which is a part of the cylinder block. The inner core is secured by interlocking of the assembling protrusions (30a) on the inner core with the corresponding grooves (14) on the frame. It is apparent from the drawing that the interlocking grooves and protrusions make a threaded connection between the two members. This kind of connection is a well-understood method of fastening parts in the art. For this reason, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify Lee's inner core and/or holder to include Hong's fastening mechanism. One skilled in the art would readily appreciate that adding threads

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to the inner stator/holder and the cylinder would be an obvious variation of the fastening mechanism as disclosed by the Hong et al. reference.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim (US 2004/0258543) teaches a linear compressor comprising an inner core attached to a holder which is fixedly mounted to the cylinder block.

Song et al. (U.S. 6,628,018) teaches a structure for a stator a reciprocating motor.

Jung et al. (U.S. 6,960,067) teaches a means for attaching the inner core of a linear compressor to the outside of the cylinder.

Chang (U.S. 6,755,627) teaches another means of attaching the inner core of a linear compressor to the cylinder block.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bojan Popovic whose telephone number is (571) 270-1889. The examiner can normally be reached on Mon-Fri, 8:00AM-5:00PM EST, Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jackson can be reached on (571) 272-4697. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BR

BP

3/27/2007

GARY JACKSON  
SUPERVISORY PATENT EXAMINER

